



Hanford's FY 2001 Draft Budget Help Influence Priorities

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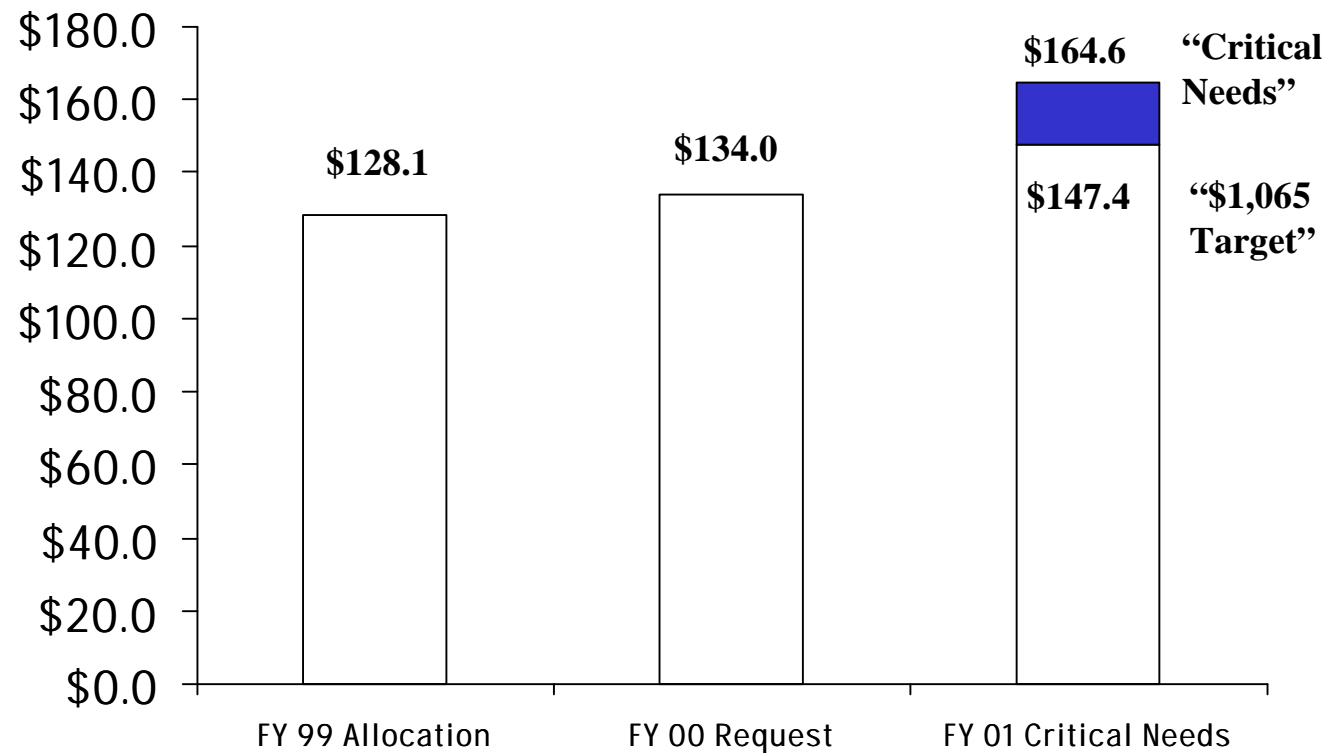
Waste Management Mission and Scope

- ◆ **The Waste Management Project manages and integrates the site's waste activities. These activities include analytical services; handling, treatment, storage and disposal of radioactive, hazardous and mixed solid and liquid waste. (Does not include management of High level waste.) The Funding also provides Waste Management and Operational compliance services for the DOE's Pacific Northwest National Laboratory.**

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Waste Management Funding Profile (\$ in millions)



This funding profile includes PNNL Waste Management Activities: FY99, \$15M; FY 00 \$14M; FY01 19.8M “Critical Needs Case”; \$16.1M \$1,065 Target case”.

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Waste Management Project Assumptions for FY2001

- ◆ **No additional waste storage facilities to be built**
- ◆ **Provide essential and minimum safe level services to the Hanford site**
- ◆ **Support DOE Science & Technology Mission**

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Waste Management Critical Needs and Project Priorities

- ◆ **Provide Essential and Minimum Safe Level Services to the Hanford Site**
- ◆ **Reduce Urgent Risks**
 - Support Tank Waste Characterization
 - Support Spent Nuclear Fuel Activities
- ◆ **Reduce Outyear Risks**
 - Support Transition Project Activities
- ◆ **Retrieve Transuranic Waste**
- ◆ **Reduce PNNL Legacy Waste and Facility Contamination**

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Waste Management Workscope Comparison

	<u>FY 99</u>	<u>FY 00</u>	<u>FY01</u>
Maintain Current Compliance Levels	✓	✓	✓
Certify TRU for shipment to WIPP	✓	✓	✓
Operate WRAP Facility	✓	✓	✓
Support Hanford analytical needs, particularly High level waste & SN F	✓	✓	✓
Support Liquid Effluent treatment, storage& disposal (coordinated campaigns)	✓	✓	✓
Support SW treatment, storage, and Disposal	Partial	Partial	Partial

✓ - Fully Funded

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Waste Management Workscope Comparison (continued)

	<u>FY 99</u>	<u>FY 00</u>	<u>FY01</u>
Provide Waste verification and decon services	Partial	Partial	Partial
Support PNNL WM Minimum Safe and Compliance activities	✓	✓	✓
Support Mixed Waste Trench disposal operations	Unfunded	✓	✓
Complete 222-S Laboratory FSAR activities	Partial	Partial	Partial
Prepare for TRU Retrieval	Unfunded	Unfunded	Unfunded
340 Shutdown activities	Unfunded	Unfunded	Unfunded
✓ - Fully Funded			

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Waste Management Breakthrough Opportunities

- ◆ **Radium 226 waste** - This opportunity involved the identification of the economic potential of a drum which was designated as waste and destined for disposal. The drum contained a significant inventory of radium (Ra-226) and was being processed for transfer to the CWC as waste. The value of the radium inventory to production of special medical isotopes was recognized and the drum recategorized as product and transferred to the PNNL program. Value of the material was estimated at \$700,000 by PNNL staff.
- ◆ **WERF, Waste Experimental Reduction Facility** - Hanford transferred approximately 20 cubic meters (96 drums) of carbonaceous, debris, mixed low-level waste to Idaho National Engineering Environmental Laboratory (INEEL) in FY 98. This waste is scheduled for incineration in the WERF facility in late February. Savings from this activity is estimated to be \$100-200K, when compared to the base contract pricing for the Hanford thermal treatment contract.

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Waste Management Breakthrough Opportunities (continued)

◆ **Disposal of Hanford Uranium** - Up to 1800 metric tons of uranium, mostly natural or very low levels of enrichment, and in various forms, oxide powder, metal, unirradiated fuel elements, are currently in storage at Hanford. Efforts to “sell” this material have been unsuccessful and an alternate disposition path appears prudent. The potential exists for disposal of most, if not all, of this uranium as low level waste. This breakthrough could be initiated in FY 1999.

◆ **Waste Management Re-engineering**

- To increase incentives for minimizing waste generation, this potential opportunity involves transfer of financial responsibility for newly generated waste at PNNL to the DOE Office of Science (SC) in FY 2001. The opportunity would also limit the EM Program’s liability for increased waste disposal costs in the outyears.

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Waste Management FY 2001 Target Impacts

- ◆ Miss TPA Milestone M-91-11-T01, LLMW PMP implementation activities
- ◆ Unable to support TRU retrieval activities (M-91)
- ◆ Limits disposal of PNNL legacy wastes and contamination
- ◆ No funds are available to correct major system failures

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Waste Management - Essential Services FY 2001 Target Buy Back List

- ◆ ***2M WRAP Operations:*** This allows for ramp up of WRAP Operations to full operating capacity. The effect delaying the operation of WRAP at full capacity one-year has not yet been fully evaluated. Potential impacts could include new storage buildings at CWC.
- ◆ ***5.9 M Reduced T-Plant Operations:*** By not funding this activity, T-Plant is in a “Cold Stand-by” condition and 2706-T is in a “Warm Stand-by” condition. Operating in this mode means that T-Plant is not available for immediate, emergent needs, but instead requires some significant advanced notice. Numbers of trained personnel will be limited
- ◆ ***1.8M TRUSAF Transition/Rad Area Reduction*** By not funding TRUSAF transition, mortgage reduction costs will not be achieved and life cycle cost will increase. Rad Area Reduction is continually delayed. By not performing this activity, the Operation of radiation areas will be at increased risk. This budget would have supported stabilization for the Low Level Burial Grounds to resolve subsidence issues and contamination control to reduce potential contamination spread and environmental damage.

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Waste Management - Compliance FY 2001 Target Buy Back List (cont.)

- ◆ **7.3 M (TRU Retrieval and PMP activities):** Not funding this delays the eventual retrieval of stored TRU materials and processing them for ultimate disposal at the WIPP. Each year of delay allows continued container corrosion and the possibility for the accumulation of more breached containers. This, in turn, increases the overall cost of retrieval. In addition, failure to fund these activities will mean failure to meet M-91 commitments. Fines and penalties from the regulators could accompany failure to meet M-91 commitments.
- ◆ **1.8 M (RH-MLLW):** Not funding this activity delays the eventual facility construction and waste processing. Each year of delay forces additional storage time within the Central Waste Complex and contributes to the need for additional storage space. In addition failure to meet milestones M-91-10 and M-91-15 could result in fines and penalties from the regulators.
- ◆ **1 M (340 Shutdown):** Annual cost savings of about 1.7 Million per year in minimum safe costs are anticipated when this activity is completed. Cleanout is expected to take 3 years. Postponing cleanout will further delay when these cost savings begin to accrue. The TPA Milestone M-92-16 requires that cleanout be completed by 9/30/2006.
- ◆ **3 M (PNNL Legacy Waste):** Not funding this delays reducing safety risks posed by legacy wastes and contamination at PNNL facilities and increases costs for future year remediation.

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Background Information

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Waste Management Technology Needs

◆ **Boxed Waste Assay System**

- ◆ Radioactive waste stored in boxes at Hanford and other sites must be characterized to allow disposal of the waste in accordance with environmental regulations. Nondestructive assay (NDA) systems are used to determine the amount of radioactive material in a sealed container without the need to open the container and sample the contents. From the characterization data scientists can determine the waste category, which is usually transuranic (TRU) or low-level waste (LLW). The benefits from this technology deployment include efficient and effective waste characterization for boxes, fast analysis of radioactive material in a sealed container, and reduced radiation exposure for workers.

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Waste Management Major Accomplishments to Date

- ◆ **Currently Operating WRAP Waste Glovebox Line Process**
- ◆ **Completed Environmental Assessment in support of Non-thermal commercial treatment of Contact Handled Mixed Low Level waste**
- ◆ **Received 1.1 Million gallons of N-Basin Waste at the Effluent Treatment Facility for treatment**

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Waste Management Major Accomplishments to Date Cont.

- ◆ **Began Radioactive Mixed Waste incineration activities with the Idaho Operations Office**
- ◆ **Received two DOE Pollution Prevention Awards in 1998**
- ◆ **Received Project of the Year Award for W-087, 222-S Radioactive Line Replacement**

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Waste Management Major Accomplishments to Date Cont.

- ◆ **325-Building maintained to support multi-program research needs**
- ◆ **Managed currently generated wastes and maintained regulatory compliance for S&T Mission**
- ◆ **Redirected cost savings and available overhead funds to initiate disposition of legacy waste and contamination in DOE facilities assigned to PNNL**

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Waste Management Planned Accomplishments in FY 2000

- ◆ **Construction of Low Level Deep Waste Trench**
- ◆ **Continue shipment of transuranic waste from Hanford to the Waste Isolation Pilot Project (WIPP)**
- ◆ **Commence disposal operations of the Mixed Waste Trench**

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Waste Management Planned Accomplishments in FY 2000 Continued

- ◆ **Operational RCRA compliant facility (2706-T) available for treatment/characterization/decontamination**
- ◆ **Continue the PNNL base operation activities for maintaining essential services, compliant EM laboratory facilities and waste management operations**

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Waste Management Planned Accomplishments in FY 2001

- ◆ **Maintain current Compliance Levels**
- ◆ **Support Solid/Liquid Waste Treatment Storage and Disposal**
- ◆ **Operate WRAP Facility**
- ◆ **Partial support of TPA M-91 activities**
- ◆ **Support Liquid Effluent Treatment, storage and disposal**

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Waste Management Planned Accomplishments in FY 2001 Continued.

- ◆ **Initiate ATG Thermal Treatment activities**
- ◆ **Support Hanford Analytical Needs, particularly ORP/BNFL and Spent Fuel**
- ◆ **Support Mixed Waste Trench Disposal Operations**
- ◆ **Support PNNL WM Essential Safety and Compliance Activities**

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Waste Management FY 2000 Budget Impacts

- ◆ **M-91 TPA milestones will be missed for TRU and RMW compliance activities**
- ◆ **221-T (T-Plant) canyon continues in cold-standby mode**
- ◆ **Shutdown activities of the 340 Facility continues to be deferred**
- ◆ **No funds available to correct major system failures**

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Waste Management FY 2000 Impacts Continued

- ◆ **Solid Waste Master Safety Analysis Report will be deferred**
- ◆ **Planned Final Safety Analysis Report at the 222-S Labs will be deferred**
- ◆ **Delay in reducing safety risks posed by legacy waste and contamination at PNNL facilities**

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